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Remarks

Applicant has amended Claim 1 to include the limitation of Claim 7, and Claim 8 to include the limitation of Claim 11.

Claim 9 was amended to correct a typographical error, and Claim 12 was amended to change the dependency thereof necessitated by the canceling of Claim 11.

The Examiner rejected Claim 1 under 35 USC 102(b) as anticipated by Kennedy. Applicant respectfully requests the Examiner to reconsider and withdraw that rejection.

Applicant's Claim 1 requires generating synthesis gas in a pressure swing reformer. Additionally, applicant's Claim 1 requires regenerating the pressure swing reformer using a fuel and compressed air from a gas turbine.

Kennedy, in contrast, generates a synthesis gas in a steam reformer and in an autothermal reformer and not in a pressure swing reformer. Kennedy also fails to disclose or suggest introducing separated hydrogen into a pressure swing reformer reactor. Thus Kennedy fails to anticipate applicant's claimed invention.

The Examiner also rejected Claims 1 to 7 under 35 USC 103(a) as unpatentable over Kennedy in view of Brown in further view of Davis. Applicant respectfully requests the Examiner to reconsider and withdraw that rejection.

Kennedy teaches using two synthesis gas generators, one being a steam reformer and another an autothermal reformer. The first produces a syn gas having a H₂:CO ratio greater than 2:1; the second, a ratio less than 2:1. Part of the hydrogen from the first syn gas is added to the second to bring the H₂:CO ratio of the second syn gas up to 2:1. As pointed out above, Kennedy fails to remotely disclose or suggest generating a synthesis gas in a pressure swing reformer for use in hydrocarbon synthesis. Brown fails to make up that deficiency in Kennedy.

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Brown, like Kennedy, fails to remotely disclose or suggest generating a synthesis gas in a pressure swing reformer. Brown teaches generating a synthesis gas in a steam reformer to provide syn gas having a $H_2:CO$ ratio of at least 3:1 and removing hydrogen from the syn gas to lower the ratio preferably to below 2. Some of the separated hydrogen may be combusted in heat reformer tubes.

Not only do Kennedy and Brown fail to disclose pressure swing reforming, they also fail to disclose or suggest regenerating a pressure swing reformer using a fuel and compressed air from a gas turbine. And, Davis does not overcome that deficiency.

Davis is cited as teaching cooling hot syn gas with water to produce steam that is used in reforming hydrocarbons. Applicant submits first that this reading of Davis is incorrect, and in any event, Davis does not disclose or suggest regenerating a pressure swing reformer using a fuel and compressed air from a gas turbine.

In view of the foregoing, the combined references fail to render applicant's claims obvious, and applicant requests that the rejection based thereon be withdrawn.

The Examiner has provisionally rejected Claims 1 to 15 under 35 USC 101 as claiming the same invention as that of Claims 1 to 12 of copending Application SN 10/756,651. Applicant deems the rejection to be obviated in view of the amendments herein and those in the copending '651 application. Specifically, Claims 1 and 8 herein include the limitation regarding the use of compressed air from a turbine in the regeneration step of the process. The copending '651 application contains no such disclosure or claim limitation, and hence, the claim in the applications are not coextensive in scope.

The Examiner provisionally rejected Claims 8 to 15 under the doctrine of obviousness-type double patenting over Claims 1 to 4 and 12 of copending application SN 10/458,399 in view of Brown in further view of Davis. Applicant respectfully requests reconsideration and withdrawal of that rejection.

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The copending '399 application is distinct from the instant application in a number of important respects. First, the copending application does not disclose using compressed air and fuel from a gas turbine for regenerating the pressure swing reformer. Second, the copending application does not disclose or suggest introducing the syn gas produced into a hydrocarbon synthesis reactor for conversion to liquid products.

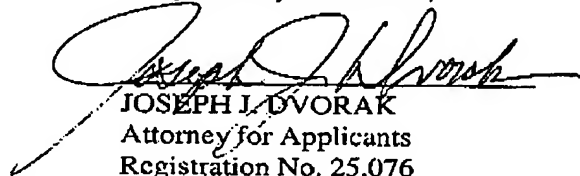
Brown does not disclose or suggest pressure swing reforming, nor does Brown disclose or suggest regenerating a pressure swing reformer with compressed air and fuel from a gas turbine.

Similarly, Davis fails to disclose or suggest regenerating a pressure swing reformer with compressed air and fuel from a gas turbine.

In sum, the claims of the instant application are not obvious from the combined references, and the provisional double patenting rejection should be withdrawn.

Applicant respectfully submits that in view of the foregoing amendments and comments, the claims are patentable over the cited art, and applicant respectfully requests the Examiner to pass the case to issue.

Respectfully submitted,



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☒ Pursuant to 37 CFR 1.34(a)

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